

AMENDMENTS TO THE CLAIMS

1. - 29. (canceled)

30. (Currently Amended) A process for removing contaminants from a natural gas feed stream containing water and a sour species comprising:

dehydrating the natural gas feed stream in a first vessel;
removing from the first vessel a stream of dehydrated gas;
cooling the dehydrated gas in a second vessel to a second operating temperature at which solids of the sour species are formed or at which the sour species dissolve in a liquid;
removing from the second vessel a stream of dehydrated sweetened gas;
wherein dehydrating the natural gas feed stream comprises cooling the natural gas feed stream in the first vessel to a first operating temperature to form hydrates; and

The process of claim 25 wherein cooling the natural gas feed stream comprises introducing the natural gas feed stream and a stream of liquid into the first vessel at a temperature that is below the first operating temperature to form a slurry with the hydrates.

31. (Currently Amended) A process for removing contaminants from a natural gas feed stream containing water and a sour species comprising:

dehydrating the natural gas feed stream in a first vessel;
removing from the first vessel a stream of dehydrated gas;
cooling the dehydrated gas in a second vessel to a second operating temperature at which solids of the sour species are formed or at which the sour species dissolve in a liquid;

removing from the second vessel a stream of dehydrated sweetened gas;

The process of claim 25 wherein cooling the dehydrated gas comprises introducing the dehydrated gas and a stream of liquid into the second vessel at a temperature that is below the second operating temperature to form a slurry or mixture with the sour contaminants.

32. (Previously Presented) The process of claim 31 wherein dehydrating the natural gas feed stream comprises cooling the natural gas feed stream to a first operating temperature at which hydrates are formed, wherein cooling the natural gas feed stream comprises introducing the natural gas feed stream into the first vessel at a temperature that is below the first operating temperature.

33. (Currently Amended) The process of claim ~~25~~ 30 wherein ~~dehydrating the natural gas feed stream comprises cooling the natural gas feed stream to a first operating temperature at which hydrates are formed, wherein cooling the natural gas feed stream comprises introducing the natural gas feed stream and a stream of liquid into the first vessel at a temperature that is below the first operating temperature to form a slurry with the hydrates, and cooling the dehydrated gas comprises introducing the dehydrated gas and a stream of liquid into the second vessel at a temperature that is below the second operating temperature to form a slurry or mixture with the sour contaminants.~~

34. (Previously Presented) The process of claim 30 wherein the liquid is a natural gas liquid.

35. (Previously Presented) The process of claim 31 wherein the liquid is a natural gas liquid.

36. (Previously Presented) The process of claim 32 wherein the liquid is a natural gas liquid.

37. (Previously Presented) The process of claim 33 wherein the liquid is a natural gas liquid.

38. (Currently Amended) A process for removing contaminants from a natural gas feed stream containing water and a sour species comprising:
dehydrating the natural gas feed stream in a first vessel;

removing from the first vessel a stream of dehydrated gas;
cooling the dehydrated gas in a second vessel to a second operating
temperature at which solids of the sour species are formed or at which the sour
species dissolve in a liquid;
removing from the second vessel a stream of dehydrated sweetened gas;
wherein dehydrating the natural gas feed stream comprises cooling the
natural gas feed stream in the first vessel to a first operating temperature to form
hydrates; and

The process of claim 26 further comprising heating the hydrates in the first vessel to a temperature that is above the first operating temperature thereby producing a water-containing liquid.

39. (Currently Amended) A process for removing contaminants from a natural gas feed stream containing water and a sour species comprising:

dehydrating the natural gas feed stream in a first vessel;
removing from the first vessel a stream of dehydrated gas;
cooling the dehydrated gas in a second vessel to a second operating
temperature at which solids of the sour species are formed or at which the sour
species dissolve in a liquid;
removing from the second vessel a stream of dehydrated sweetened gas;
and

The process of claim 25 further comprising heating the sour species in the second vessel to a temperature that is above the second operating temperature thereby producing a sour species-containing liquid.

40. (Currently Amended) The process of claim 26 ~~38~~ further comprising ~~heating the hydrates in the first vessel thereby producing a water-containing liquid and heating the sour species in the second vessel thereby producing a sour species-containing liquid.~~

41. (Previously Presented) The process of claim 38 wherein heating the hydrates in the first vessel comprises adding to the hydrates a warm liquid.

42. (Previously Presented) The process of claim 40 wherein heating the hydrates in the first vessel comprises adding to the hydrates a warm liquid.
43. (Previously Presented) The process of claim 39 wherein heating the sour species in the second vessel comprises adding to the sour species a warm liquid.
44. (Previously Presented) The process of claim 40 wherein heating the sour species in the second vessel comprises adding to the sour species a warm liquid.
45. (Previously Presented) The process of claim 41 wherein the warm liquid is a natural gas liquid.
46. (Previously Presented) The process of claim 42 wherein the warm liquid is a natural gas liquid.
47. (Previously Presented) The process of claim 43 wherein the warm liquid is a natural gas liquid.
48. (Previously Presented) The process of claim 44 wherein the warm liquid is a natural gas liquid.